

## THE JOHNS HOPKINS MEDICAL SCHOOL.

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On the twenty-second of last February, at the seventeenth anniversary of the Johns Hopkins University, President Gilman, in behalf of the Trustees, announced that the Johns Hopkins Medical School will be opened in October next. In his address on that occasion, he showed that the purpose of the founder of the University and Hospital in providing for such a school as a part of the University and in association with the Hospital had been kept in view since the beginning of the University, and had influenced the establishment and development of several departments of science in this University. It had been contemplated that the medical department would be fully organized at the time of the opening of the Hospital, but when that time came financial difficulties rendered impossible the fulfilment of this long cherished purpose.

This apparently indefinite postponement of the opening of the Medical School was the more keenly appreciated because enough had already been done to make clear that here was a great opportunity for medical education. The University had already provided professorships of chemistry, physiology and pathology; the Hospital had secured a staff of able physicians and surgeons, who received from the University the title of professors; many details in construction of the Hospital, which added much to its cost, were intended for the use of the Medical School; in various ways the resources of these two great institutions, University and Hospital, were available for the benefit of the Medical School. Additional buildings, laboratories and professorships, however, were needed to complete the organization of a medical department worthy of the University. I need not rehearse how, by the generous gift of Miss Garrett, these difficulties were overcome. This was all told by President Gilman on last Commemoration Day.

It seems appropriate on this occasion to say a few words about what has already been done toward the organization of the Medical School and about the aims of the School.

Much needed to be done to prepare for the opening of the School in October, and no time could be or was lost in beginning these preparations. One of the first things to engage the attention of the Medical Faculty was the determination of the amount and character of preliminary education to be required of students admitted to the Medical School as candidates for the doctor's degree. This is, in my opinion, the most perplexing problem concerning medical education, especially in this country. A few words will make the difficulties clear. At present in this country no medical school requires for admission knowledge approaching that necessary for entrance into the Freshman class of a respectable college; many schools demand only the most elementary education, and some require no evidence of any preliminary education whatever. Foreign medical schools differ in this respect, but all in Europe have far more rigid requirements for admission than has any school in this country. In Germany, which in recent years has done more than any other country for the advancement of medical science, the student passes from the gymnasium to the university, where, at an average age of nineteen years, he begins the study of medicine with physics, chemistry and other subjects, which are included in this country in the so-called preliminary medical courses. It is to be noted that training at a classical gymnasium is required and cannot be substituted by that at a Real-gymnasium, in which a scientific takes the place of a classical course.

For many years in Germany and elsewhere there has been much discussion as to the preliminary education which should be required of students of medicine and there is still great difference of opinion on this subject. In his earlier years DuBois Reymond said Greek by all means should be required; later he cried "More Conic Sections and less Greek." Virchow in his recent rectorate address demands an improvement in methods, especially in such as train the senses, particularly of sight and touch. "At present," he says, "we must complain that the majority of our students have no accurate knowledge of colors, that they make false statements regarding the form of objects which they see, and that they have no sense for the consistence and characters of the surface of bodies," and yet "knowledge of this kind is of the greatest importance for the medical man as often the diagnosis of the most important conditions depends upon it."

Even if there were agreement of opinion as to the best education preparatory for the study of medicine, there would still remain for us very serious and important difficulties peculiar to the system of education in this country. These difficulties result from the anomalous development of those American colleges which are half college and half university, but are neither one



thing nor the other, and from which students are graduated at an average age of twenty-two to twenty-three years. The flower of our youth seek a collegiate education and it is eminently desirable that they should have it. We believe that those who have had a liberal education are best fitted for the study of medicine, but it is important that the study of medicine should begin at an age not exceeding twenty or at the utmost twenty-one years. The period of professional study should not be less than four years, and after this many will wish to spend a year or a year and a half in hospital service and an equal length of time in special study in this country or in Europe.

How are we to adapt to the embarrassing and anomalous development of American colleges a system of medical education for which a liberal education is demanded as a prerequisite? We are not prepared to recognize a high school training as sufficient, and between this and training in a college or scientific school there is no intermediate grade. We must therefore endeavor to conform to the peculiar conditions in our colleges and scientific schools. We do not claim to furnish an entirely satisfactory solution of the problem, but we have endeavored to do the best we could under all of the circumstances by asking that students who are admitted to the medical school as candidates for the doctor's degree shall possess the liberal education implied by a degree in arts or in science, and shall also have a specified amount of knowledge in certain sciences fundamental to the study of medicine as well as a reading knowledge of French and German. In other words we ask the colleges which keep students two years after the age when the study of medicine should begin, to teach them during these two years such subjects as physics, chemistry and general biology, which in most European schools are included in the medical curriculum, but which can be better taught in the faculty of arts, or of science, than in a medical school. This means that a student taking a four years' academic course in one of these colleges shall have made up his mind at the end of sophomore year to study medicine. It means also that, if compared with European systems of medical education, the course of medical study required for our degree of Doctor of Medicine covers five to six years. We fully realize that the number of students who will meet these rigid requirements is not likely to be large.

I have dwelt thus upon the requirements in education preliminary to the study of medicine, not for the purpose of discussing these requirements for which neither time permits nor is the occasion suitable, but in order to make clear that there are especial difficulties in determining what these requirements should be and that these difficulties are greater in this country than elsewhere. Only experience can determine whether or not the plan

which we have adopted is the best one for our purpose. It is to be expected and desired that, with improvements in educational methods and systems in this country, there will be corresponding improvements in the character of the training to be required in preparation for the study of medicine. At any rate we can feel sure that we shall not be subject to the reproach most frequently brought against American Medical Schools, viz: a low standard of admission,—for our standard is not only vastly higher than has ever before been attempted in this country, but is not surpassed in any medical school in the world.

Before opening the medical department it was necessary to fill three professorships, viz: those of anatomy, of pharmacology and of physiology. The Trustees confirmed the appointment of the three men recommended for these chairs by the Medical Faculty. Dr. Mall has accepted the professorship of anatomy, Dr. Abel that of pharmacology and Dr. Howell that of physiology. We believe that we have been most fortunate in securing these young men, who are enthusiastic and well trained in their special departments, and who have shown distinguished ability both as teachers and investigators. Each relinquished, in order to come here, important professorships with brilliant prospects in other institutions: Dr. Mall in the University of Chicago, Dr. Abel in the University of Michigan, and Dr. Howell at Harvard. It is a source of no slight gratification that these three new professors were all formerly connected with this University,—Dr. Mall as fellow and assistant in pathology, Dr. Abel as a graduate student, and Dr. Howell first as student and ultimately as associate professor of physiology.

By Dr. Martin's resignation of the professorship of Biology, we have been deprived of his aid in the organization of the Medical School. He had formed a part of the small nucleus of a medical faculty which had existed in the University for many years. He had looked forward for years to helping to start the new school from which so much was expected. It was largely by his scientific work in this University that the Johns Hopkins Medical School had a distinguished reputation before it really existed. He has done a great work not for this University alone, but for the whole country, in the advancement of higher physiology; and the Medical School should not and will not forget Dr. Martin's services in lighting here the flame of one of the chief medical sciences. That this flame will be kept bright by his successor in the chair of physiology, we all believe.



At present the Pathological Building on the grounds of the Johns Hopkins Hospital is receiving two additional stories, which will accommodate the departments of anatomy and physiological chemistry until other buildings of the Medical School are constructed.

The length of time required to complete the course of study in the Medical School will be four years. The first year will be devoted chiefly to the study of anatomy, physiology and physiological chemistry. At the end of this year the student will have reached about that point in the course which corresponds to the *examen physicum* in the German Universities. With us, however, there will follow three years of strictly professional, mostly practical, study, instead of two years of such study in the German system. Pathology, pharmacology and the general principles of medicine and surgery will be taken up in the second year, and during the last two years the work will be very largely clinical, that is bed-side and dispensary instruction. At present only the details of the first year's course have been worked out and announced, as students at the beginning will be admitted only to the first year of study.

In the methods of instruction especial emphasis will be laid upon practical work in the laboratories and dissecting room and at the bedside. There will be close personal contact between teacher and student. Graduates of the School may look forward to securing places as internes in the Hospital.

The aim of the School will be primarily to train practitioners of medicine and surgery, that is to qualify persons to take care of diseased and injured conditions of the human body. We hold that the medical art should rest upon a thorough training in the medical sciences, and that, other things being equal, he is the best practitioner who has this thorough training. The medical sciences have made great progress in the last quarter of a century, greater than has the practice of medicine with which alone the general public has much concern. The prevention and treatment of disease have, however, also made important advances, and it can not be doubted that they will derive still greater benefits in the future from the discoveries which have been made and are to come in physiology and pathology.

But medical education is not completed at the medical school; it is only begun. Hence it is not only or chiefly the quantity of knowledge which the student takes with him from the school which will help him in his future work; it is also the quality of mind, the methods of work, the disciplined habit of correct reasoning, the way of looking at medical problems.

In order to cultivate in the student this habit of thought, this method of work, I believe that there is no one thing so essential as that the teacher should be also an investigator and should be capable of imparting something of the spirit of investigation to the student. The medical school should be a place where medicine is not only taught but also studied. It should do its part to advance medical science and art by encouraging original work, and by selecting as its teachers those who have the training and capacity for such work. In no other department of natural science are to be found problems awaiting solution more attractive, more significant than those in medicine; and certainly these problems do not lose in dignity because they relate to the physical well-being of mankind.

The Johns Hopkins Medical School will start unhampered by traditions and free to work out its own salvation. It will derive inestimable advantage from being an integral and coördinate part of this great University, which will see to it that university ideals and methods are not lost sight of in the new school. It will have the support of a great hospital, the trustees of which have already shown the most enlightened spirit in the encouragement of medical research. May the Johns Hopkins Medical School not only receive lustre from the University and the Hospital, but may it also add to the renown and usefulness of both these institutions, of which it is to form a part.

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